WIND RIVER CLOUD PLATFORM ESSENTIALS

COURSE DESCRIPTION

The Wind River® Cloud Platform Essentials course provides engineers with a fast, cost-effective way to acquire the skills necessary to deploy, monitor, and maintain a Cloud Platform system and applications.

After this course, participants will be able to perform the following:

- Deploy, provision, and monitor Cloud Platform
- Deploy user applications on Cloud Platform
- Scale containerized user applications up or down
- Upgrade, roll up, and roll back user application software releases
- Monitor application software, examine operation logs, and monitor and debug a system

PRODUCTS SUPPORTED

- Wind River Cloud Platform

COURSE FORMAT

- This four-day expert-led course consists of lectures and lab sessions.
- Attendees use Cloud Platform to gain experience with the topics presented.
- Participants examine and exercise simulated network topologies in hands-on labs.
- Participants receive individual guidance from an expert engineer who has extensive experience with Wind River technologies.

AUDIENCE

- Cloud Platform service and network architects, system architects and administrators, and application developers

PREREQUISITE SKILLS

- Familiarity using the Linux OS and its CLI (available from a third-party resource such as the Linux Foundation)
- Understanding of networking fundamentals (Ethernet, switching, routing)
- Familiarity with the fundamentals of Kubernetes orchestration (available from a third-party resource such as the Linux Foundation)

Course title:	**Wind River Cloud Platform Essentials**
Duration:	Four days
Format:	Instructor-led lectures and hands-on lab sessions; instructor-led Live Remote delivery available
Content:	**Day 1:** Wind River Cloud Platform Overview; System Installation and Backup; System Inventory and Configuration; Cloud Platform Infrastructure Management; Cloud Platform Service Manager; Cloud Platform Fault Manager
	Day 2: Cloud Platform Networking; Maintenance Overview; Cluster Monitoring; Cluster Hardware Maintenance; System Monitoring
	Day 3: Docker Containers; Container Orchestration; Managing Applications with Cloud Platform
	Day 4: Use Case Whiteboarding and Live Demonstration with Cloud Platform Hardware

PREREQUISITE COURSES

- None

RELATED COURSES

- None

SYLLABUS

Day 1

WIND RIVER CLOUD PLATFORM OVERVIEW

- Overview
- Use cases

- Cloud Platform architecture
- Deployment configurations

SYSTEM INSTALLATION AND BACKUP

- Automated installation and commissioning
- Deployment manager
- System data collection
- Distribute cloud configuration
- Backup and restore
- **LAB: Getting Started with the Cloud Platform Lab Environment**

SYSTEM INVENTORY AND CONFIGURATION

- System inventory
- System configuration

CLOUD PLATFORM INFRASTRUCTURE MANAGEMENT

- Infrastructure management
- Kubernetes cluster management

CLOUD PLATFORM SERVICE MANAGER

- Service manager for high availability
- Avoiding split-brain scenarios

CLOUD PLATFORM FAULT MANAGER

- Cloud Platform fault management
- Cloud Platform alarm management

Day 2

CLOUD PLATFORM NETWORKING

- Kubernetes networking overview
- Calico networking plug-in for Kubernetes
- Debugging Kubernetes networking

MAINTENANCE OVERVIEW

- Maintenance overview
- Service maintenance
- Process maintenance
- Fault detection
- System state maintenance
- Maintenance alarms and logs

CLUSTER MONITORING

- Event handler for administrator actions
- Host state change notifications

- Process monitoring
- Watchdog, heartbeat, and file system monitoring

CLUSTER HARDWARE MAINTENANCE

- Interface and resource monitoring
- BMC access and thread execution unit monitoring
- Host sensor monitoring

SYSTEM MONITORING

- Cluster and infrastructure monitoring

Day 3

DOCKER CONTAINERS

- Container overview
- Docker
- Docker images
- Container networks

CONTAINER ORCHESTRATION

- Container orchestrator overview
- The Kubernetes container orchestrator
- Container application management
- The Armada toolset
- **LAB: Accessing Cloud Platform from Outside a Cluster**
- **LAB: Deploying and Debugging Applications on Cloud Platform**

MANAGING APPLICATIONS WITH CLOUD PLATFORM

- Application management
- Cloud Platform and application monitoring
- Service configuration
- **LAB: Deploying Applications with the Helm Package Manager**
- **LAB: Applying Rolling Updates and Canary Releases to Applications on Cloud Platform**

Day 4

USE CASE WHITEBOARDING AND DEMONSTRATIONS

- Bootstrapping and installing Cloud Platform
- Configuring Cloud Platform in a distributed cloud
- Implementing PCI passthroughs and SR-IOV device passthroughs
- Monitoring Cloud Platform
- Using the Cloud Platform centralized management panel

GLOBAL REACH OF WIND RIVER EDUCATION SERVICES

With more than 30 years of experience delivering software for the intelligent edge, Wind River provides education services in every region of the world. Our private classes can be tailored to your needs by adding or removing topics from multiple courses. If you have more specific project challenges, Wind River Mentoring provides coaching by experienced engineers to help you integrate Wind River solutions into your environment. And when you're too busy to attend a whole class, our Wind River Learning Subscription provides around-the-clock access to advanced and specialized topics on demand. All of our education services are led by expert engineers who are closely connected to the Wind River technical community for access to specific expertise.

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